

ABSTRACT

The present invention provides a manufacturing method of a semiconductor module which enables the joining at a low temperature within a short time and can obtain more reliable joining portions by performing the joining without using a solder joining medium. The manufacturing method of a semiconductor module includes a first joining step for joining first circuit electrodes which are formed on a circuit board and back-surface-side die electrodes of a semiconductor die, a second joining step for joining the front-surface-side electrodes of the semiconductor die and one ends of lead frames, and a third joining step for joining another ends of the lead frame and second circuit electrodes which are formed on the circuit board, wherein a low-melting-temperature metal layer is formed on one conductive portion of a pair of conductive portions to be joined and, thereafter, the low-melting-temperature metal layer is heated and pressurized thus diffusing the low-melting-temperature metal layer into the pair of conductive portions by solid-liquid diffusion whereby the conductive portions are joined to each other.